

State of Louisiana  
Department of Transportation and Development (DOTD)  
Materials and Testing Section Qualification Procedure  
for

**ADHESIVE ANCHOR SYSTEMS FOR DEFORMED TIE BARS**

**MATERIAL SPECIFICATION REFERENCE:**

DOTD Standard Specifications, Supplemental Specifications and Special Provisions, Subsections' 601.09, 1017 (copies attached).

**PRELIMINARY REQUIREMENTS:**

Approved Materials Evaluation Form

The manufacturer shall submit a standard " Approved Materials Evaluation Form" to the DOTD Materials and Testing Section Coordinator listed below, for each system to be evaluated, along with a letter requesting evaluation for the Approved Materials List.

General Information

Include all pertinent information relative to the material to be evaluated; including, but not limited to the manufacturer's specifications, anchoring instructions, available sizes (if applicable), material limitations (such as hole diameter tolerances, moisture limitations, etc.) and Safety Data Sheet (SDS).

Samples (to be furnished at no cost to the Department)

Submit a quart (1-Liter) sample of each component of adhesive or a gallon (4-Liter) sample of grout for compressive strength testing. In addition, three No. 4 x 28" (Three No. 13 x 712 mm) deformed tie bars, conforming to ASTM A-615, threaded a minimum of 6" (152 mm) on one end with two nuts and washers attached shall be submitted for pull-out tests along with a sufficient quantity of material needed to perform tests.

### Concrete Blocks

The manufacture shall provide concrete slabs with the following requirements:

1. Must have a minimum compressive strength of 4,000 psi. This shall be verified by at least four 6" x 12" concrete cylinders per mix.
2. Must be located locally with access to electricity and air compressor.
3. Must have adequate surface area and depth to perform the pull-out tests.
4. Cost and disposal of the concrete slabs will be borne by the manufacturer.

### Special Tools

The manufacturer will provide the special tools needed for the evaluation.

## **TEST REQUIREMENTS:**

### Laboratory Testing

The manufacturer's representative shall be present during the installation for the pull out tests to ensure proper installation and handling of the material. Special adaptors or other tools which may be required for the installation shall be supplied to the Materials Section at the time of testing.

### Alternate Testing

As an alternate to the above Laboratory Testing, a manufacturer may elect to choose a private, local laboratory or ready mix plant to perform the preliminary tests required by the Department. The manufacturer representative is responsible for the installation of the anchor system, hydraulic jack calibration, and must submit the schedule and pertinent information to DOTD Coordinator for review. The DOTD Coordinator or his appointee will schedule the date and time to be present to witness the installation operation. The following procedures apply to the evaluation of the anchor systems.

A loading frame will be placed directly over the installed rebar so that a tensile pullout load can be applied to the bar with a hydraulic jack. The ultimate load carried by each rebar will be reported as well as the mode of failure. The mode of failure may occur by one or a combination of the following:

1. Failure of the concrete test slab.
2. Bond failure between the rebar and test slab.
3. The yielding or fracture of the rebar.

Pull out tests will be conducted on each system for conformance to the following. Failure of the test slab or steel bar below the minimum pull out resistance will result in a retest.

Bar Size	Embedment, in (mm)	Min. Pull Out, lbs (kg)
No. 4 (No. 13)	12 (305)	5,400 (2450)

#### Evaluation Time

Laboratory testing - one month

#### **GENERAL:**

Upon completion of the evaluation, the submitter will be notified in writing concerning the results of the evaluation and whether the product will or will not be added to the Approved Materials List. The Department reserves the right to reevaluate any approved material at any time. The Department must be notified in writing of any change in material formulation. Significant changes may require reevaluation of the material.

**PROJECT ACCEPTANCE REQUIREMENTS:**

Inclusion of your product on the Approved Materials List is not blanket approval for its use.

All products, regardless of prior approval, shall be sampled in accordance with the Materials Sampling Manual

**DISQUALIFICATION:**

Any material may be removed from the Approved Materials List should any problem develop concerning the formulation, application or performance. The Department must be notified in writing of any change in material formulation. Significant changes may require reevaluation of the material.

**REQUALIFICATION:**

A material which has been disqualified and removed from the Approved Materials List will be considered for reevaluation only after submission of a formal written request along with acceptable evidence that the problems causing the disqualification have been solved.

**DOTD MATERIALS AND TESTING SECTION COORDINATOR:**

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Approved 2-05-15

A handwritten signature in black ink, appearing to read 'Chris Abadie', with a long horizontal flourish extending to the right.

**CHRIS ABADIE, P. E.**  
**MATERIALS ENGINEER ADMINISTRATOR**